What is claimed is:

1. A semiconductor apparatus comprising:

metal bumps formed so as to connect to a circuit pattern of a semiconductor device and

a resin film formed on a circuit pattern forming surface of said semiconductor device so as to seal spaces between the metal bumps and become thinner than the height of the metal bumps,

the surfaces of the metal bumps projecting out from the resin film being cleaned.

2. A semiconductor apparatus as set forth in claim 1, wherein the surfaces of the metal bumps projecting out from the resin film are cleaned of components inviting a rise of a connection resistance and a drop in a joint strength at least at connection interfaces.

3. A semiconductor apparatus as set forth in claim 1, wherein said metal bumps are solder bumps and solder layers different in composition from said solder bumps are formed at the surfaces of the solder bumps projecting out from the resin film.

4. A semiconductor apparatus as set forth in claim 2, wherein said metal bumps are solder bumps and solder layers different in composition from said solder bumps are formed at the surfaces of the solder bumps

projecting out from the resin film.

5. A semiconductor apparatus as set forth in claim 3, wherein said solder bumps are comprised of high melting point solder and said solder layer is comprised of eutectic solder.

6. A semiconductor apparatus as set forth in claim 4, wherein said solder bumps are comprised of high metal point solder and said solder layers are comprised of a eutectic solder.

7. A process of production of a semiconductor apparatus comprising:

a first step of forming metal bumps so as to connect to a circuit pattern of a semiconductor device,

a second step of forming a resin film on a circuit pattern forming surface of said semiconductor device so as to seal spaces between said metal bumps and to become thinner than a height of the metal bumps, and

a third step of cleaning the surfaces of the metal bumps projecting out from the resin film.

8. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, the surfaces are cleaned by removing components inviting a rise in a connection resistance and a decline in a joint strength at least at a connection interface.

9. A process of production of a semiconductor

apparatus as set forth in claim 7, wherein, in said third step, the surfaces of the bumps are activated in parallel to the cleaning of the surfaces of the bumps.

10. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, said resin film components deposited on said bumps are removed.

11. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, oxides on said bump surfaces are removed.

12. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, the cleaning of the surfaces of the bumps is performed by plasma cleaning.

13. A process of production of a semiconductor apparatus as set forth in claim 12, wherein said plasma cleaning is at least sputter etching by discharge plasma of an inert gas.

14. A process of production of a semiconductor apparatus as set forth in claim 12, wherein said plasma cleaning is at least oxygen plasma treatment and then sputter etching by discharge plasma of an inert gas.

15. A process of production of a semiconductor apparatus as set forth in claim 12, wherein said plasma cleaning is at least oxygen plasma treatment and then

sputter etching by discharge plasma of a reducing gas.

16. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, the cleaning of the surfaces of the bumps is performed by irradiating a laser beam.

17. As a process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, the cleaning of the surfaces of the bumps is performed under a reduced pressure atmosphere, an inert gas atmosphere, or a reducing gas atmosphere.

18. A process of production of a semiconductor apparatus as set forth in claim 7, wherein, in said third step, the cleaning of the surfaces of the bumps is performed while applying a gas jet to the bumps to peel off the unnecessary components which are then sucked away.

19. A process of production of a semiconductor apparatus as set forth in claim 7, wherein

the metal bumps formed in the first step are solder bumps and

after the third step, further comprises a fourth step of forming solder layers different in composition from the solder bumps on the surfaces of the solder bumps.

20. A process of production of a semiconductor

apparatus as set forth in claim 19, wherein said solder bumps are high melting point solder and said solder layers are comprised of a eutectic solder.

21. A process of production of a semiconductor apparatus as set forth in claim 20, wherein, in said fourth step, the eutectic solder layers are formed by a printing method, plating method, or transfer method.

22. A process of production of a semiconductor apparatus as set forth in claim 7, wherein the steps up to at least the third step are performed on a semiconductor device formed on a semiconductor substrate in a semiconductor wafer state.

23. A process of production of a semiconductor apparatus as set forth in claim 7, further comprising a fourth step of cutting the semiconductor wafer into unit semiconductor chips after said third step.

24. A process of production of a semiconductor apparatus as set forth in claim 23, further comprising a step of mounting a semiconductor chip on a mounting board from the bump forming surface side so as to connect it at the bumps after said fourth step.